

Application No.: 10/826,270**Docket No.: 5000-029****REMARKS**

By this Amendment, claims 4, 13, and 22 are canceled, and claims 1, 7, 10, 15-19, and 23 are amended. Accordingly, claims 1-3, 5-12, 14-21, and 23-27 are pending in this application.

The Office Action rejects claims 1-8, 11-18 and 21 under 35 U.S.C. §112, first paragraph, asserting that the claims fail to comply with the enablement requirement. Specifically, the Office Action asserts that the step for "enhancing ambiguity resolution of the first position estimate. . . . and the other received signal" is insufficiently disclosed. The Office Action further asserts that the determination of "a first position using a first received signal and an other received signal" is insufficiently disclosed in the specification, specifically in relation to the case where two receive signals are merely two GPS signals.

Claim 1 has been amended to delete the reference to "enhancing ambiguity resolution." In view of the foregoing, Applicants respectfully submit that claims 1-27 fully comply with 35 U.S.C. §112, first paragraph. Accordingly, withdrawal of the rejection is respectfully requested.

The Office Action further rejects claims 1-27 under 35 U.S.C. §112, second paragraph, asserting that the claims are indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regards as the invention. Specifically, the Office Action asserts that the claims are indefinite since they fail to clearly and distinctly set forth the subject matter, particularly with respect to the language "the correlating a first and second measurement based on the received signal and the other received signal" since the first and second measurements are undefined. In addition, the Office Action asserts that the language "enhancing ambiguity resolution" is not definite since no previous ambiguity has been resolved and thus "enhancing" is unclear.

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As submitted above, claim 1 has been amended to delete any reference to "enhanced ambiguity." Furthermore, the terms "first and second measurement" are believed to be defined. Accordingly, Applicants submit that claims 1-27 fully comply with 35 U.S.C. §112, second paragraph. Therefore, withdrawal of the rejection is respectfully requested.

The Office Action further rejects claims 1-27 under 35 U.S.C. §101 asserting that the claimed invention is directed to non-statutory subject matter. Specifically, the Office Action asserts that the invention fails the test for being "useful." The Office Action further asserts that the claimed subject matter fails to produce a "tangible" result as the claimed subject matter merely "derives a position estimate." This rejection is respectfully traversed.

The very nature of position determination is based upon approximating and estimating the actual position of a subject, which in many cases is in motion, and therefore can only be an estimate at any point in time. Many factors and errors may be introduced that affect position determination, including the speed of the subject, the direction of movement, the processing speed of a processor executing the programmed instructions, signal strength, etc. Accordingly a method and apparatus that can improve the estimation of the position of a subject despite of a multitude of mitigating factors and errors is very much a tangible, useful, and highly desirable result. Notwithstanding the assertions of the Office Action, independent claims 1 and 10 have been amended to more clearly describe the "tangible and useful" result of the recited method and computer readable medium when used in a computer system.

The Office Action objects to the drawings under 37 CFR 1.83(a), specifically in regards to failing to show the "enhancing ambiguity resolution of the first position estimate. . . ." As discussed above, all references to "enhancing ambiguity resolution" have been deleted. Applicants respectfully submit, therefore, that all claimed subject matter is adequately shown in the flowcharts

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of Figs. 2, 4, and 6 and the computer system of Fig. 6, and comply with 37 CFR 1.83(a).

The Office Action further rejects claims 1-27 under 35 U.S.C. §102(b or e) over U.S. Patent Publication No. 2005/0190103 to Rapoport et al. ("Rapoport"), Teunissen in "A New Method for Fast Carrier Ambiguity Estimation" (hereafter "Teunissen"), and Park et al. in "Efficient Ambiguity Resolution Using Constraint Equation" (hereafter "Park"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, a method of providing real time kinematics determination, comprising determining a first position measurement using a first received signal and a second measurement using a second received signal and decorrelates the signals using the formula $\tilde{V}_2 = \tilde{H}_2 X + \tilde{L}_2$. Applicants respectfully submit that neither Rapoport, nor Teunissen, nor Park disclose this feature.

Although Rapoport discloses methods and apparatuses of estimating the position of a mobile user in a system of satellite differential navigation using a real-time iterative matrix refactorization process, nowhere does Rapoport disclose decorrelating two received signals using the formula recited in claim 1.

Similarly, although Teunissen discloses a method for estimating fast carrier phase ambiguity, Teunissen only discloses a transform based upon Gauss transformations and not a transformation based upon the formula recited in claim 1.

Park likewise discloses a method of resolving ambiguities. However, like Rapoport and Teunissen, Park discloses a method that does not teach or suggest the method disclosed by the Applicants. For example, Park, in the last paragraph of the introduction on page 277, states that "[t]he object of this paper is to suggest a new technique to fix integer ambiguities using single-frequency receiver," and does not disclose a method based upon two received signals. Furthermore, Park, in the paragraph previous to the above cited paragraph, teaches away from dual-frequency

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receivers, stating that they are not available for usual civilian users. Nowhere does Park disclose, teach or suggest, using a first and second received signal, as recited in independent claim 1.

Applicants respectfully submit, therefore, that independent claim 1 is believed to be patentable over the applied art. Independent claims 10 and 19 respectively recite computer medium and apparatus claims based upon the method recited in claim 1, and are likewise patentable. Claims 2, 3, 5-9, 11, 12, 14-18, 20, 21, and 23-27 depend variously from independent claims 1, 10, and 19, and are likewise patentable over the applied art at least for their dependence on an allowable base claim, as well as for additional features they recite. Withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

Furthermore, notwithstanding the patentability of claim 1 as argued above, it is not incumbent on the Applicants to assist in formulating the rejection and attempting to decipher which element the rejection holds to be disclosed and how this anticipates the claimed subject matter. The PTO is therefore respectfully requested to identify, preferably using column and line, where disclosure of the above-mentioned subject matter is to be found.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 5-12, 14-21, and 23-27 are earnestly solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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